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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,731	10/03/2005	Karsten Bruninghaus	09-139-WO-US	4322
20306 7590 02/02/2010 MCDONNELL BOEHNNEN HULBERT & BERGHOFF LLP 300 S. WACKER DRIVE 32ND FLOOR CHICAGO, IL 60606				
EXAMINER KAO, JUTAI				
ART UNIT 2473		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/551,731

**Applicant(s)**

BRUNINGHAUS ET AL.

**Examiner**

JUTAI KAO

**Art Unit**

2473

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/03/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Interval Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/14/2009 has been entered.

### ***Response to Amendment***

The amendments filed on 10/14/2009 cure the problem raised in the previous restriction by re-writing the claims into a single group of claims.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 9-23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed subject matters of claims 9-23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 12-16, 20, and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 12 recites the steps of "the first station establishing the new data link after the first period of time, the first station receiving a message from the second station to halt the new data link, and at least temporarily suspending the new data link for a second period of time after receiving the message". The closest disclosure of such claim limitation is found in paragraph [0021] of the specification, which recites the following:

"[0021] In the case of scenario 1, when a data overflow was detected, the fifth station MT5 would in accordance with the embodiment be requested by the fourth station MT4 to halt its data service for a period x. If, upon expiration of this period x, the fifth station MT5 were to cause a data overflow during its renewed attempt to transmit the data, then in accordance with the embodiment a request would again be made from the fourth station MT4 for the service to be postponed for a further period x, this time increased by a discrete value."

The paragraph shows a scenario 1, which is described in paragraph [0016] in which a new connection between MT5 and MT6 is requested. However, as described in paragraph [0021], after a first period of time x, the first station (MT5) tries to transmit again. The paragraph only discloses "renewed attempt to transmit the data" without indicating the claimed limitation of "the first station establishing the new data link after the first period of time". Secondly, paragraph [0021] only shows a request being made from the station MT4 to further postpone the service for a further period x, which is

different from the claimed feature of "the first station receiving a message from the second station to halt the new data link, and at least temporarily suspending the new data link for a second period of time after receiving the message". That is, the second station in the communication between MT5 and MT6 in this scenario is MT6 instead of MT4. In addition, the paragraph only shows that the data service is halted by MT4, but does not show the claimed halting/suspending of the new data link.

The specification also does not disclose the claimed element of "after the second period of time, the first station establishing a second new data link without regard for the current utilization of the medium" as required by claim 13. As shown in paragraph [0021], the specification only shows that the service is to be postponed for a further period x, without showing what happen after the period x. Claims 14-16 and 20 are all dependent on claims 12-13 and each of which further describes procedures performed after the second period, none of which are disclosed in the specification.

Claim 22 recites claim limitations regarding a third new link. The original disclosure does not include any disclosure regarding a third new link. The applicant also did not point out where the disclosure appears in the remarks to the amendments.

6. Claims 15, 16 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 15 and 18, the claimed requires that the halting of a data link by a termination condition, which is not found in the specification.

Regarding claims 16, the claim limitation of which "the duration of the second period of time is set by a portion of the message received from the second station" is not shown in the specification. The closest portion of the specification only recites "a request would again be made from the fourth station MT4 for the service to be postponed for a further period x" in paragraph [0021]. The cited portion of the specification does not show that the period "x" is to be included in a message sent by any station.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 19, 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 is dependent on canceled claim 1. Therefore, the scope of the claim is unclear.

9. Claim 19 recites the limitation "the threshold level" in lines 1. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 21 recites the limitation "the first station", "the first period of time", "the method in accordance with claim 1" and "the second station" in lines 1-3 and 6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 9-10, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desai (US 7,254,141) in view of Cloutier (US 6,754,189).

Desai discloses a method for allocating bandwidth in a communication network including the following features.

Regarding claim 9, a method for controlling the transmission of data between a first and second station over a transmission medium (see transport 115 and 117 in Fig. 2) connecting the first (see terminal 100 and corresponding switches 102 and 104 in



Fig. 2) and second station (terminal 200 and corresponding switches 106 and 108 in Fig. 2), said method comprising: receiving a request for a new data link (see "requests for connections" recited in column 4, line 30) having a first channel capacity (see "bandwidth on each link" recited in column 4, line 33) at a first priority level from a first application at the first station (see "For example, a video conference connection may be assigned a high priority" recited in column 4, line 25-26; and see "set-up message requesting a connection having a requested priority" recited in column 4, line 65-67); the first station determining an available free channel capacity of the transmission medium, the free channel capacity including a currently unused capacity and at least a portion of capacity currently allocated to data links having a priority level less than the first priority level (see Fig. 3, wherein steps 314 and 318 compares the available capacity with the requested bandwidth; and see "Avail(I), represents available bandwidth for a specific priority I, and is determined based on total bandwidth of the link minus the total bandwidth of all provisional and actual connections of higher or equal priority" recited in column 4, lines 45-50); the first station determining that the free channel capacity at the first priority level is less than the requested first channel capacity (see "No" branch of step 314 in Fig. 3).

Regarding claim 10, preventing the degradation of already-existing data links having a priority level equal to the first priority level by excluding from the determination of free channel capacity the capacity currently allocated to data links having a priority level equal to the first priority level (see "Avail(I), represents available bandwidth for a specific priority I, and is determined based on total bandwidth of the link minus the total

bandwidth of all provisional and actual connections of higher or equal priority" recited in column 4, lines 45-50).

Regarding claim 21, A method comprising: the first station establishing the new data link after the first period of time (see Fig. 3, which shows the steps of establishing a new connection), the second station determining that a second new data link established by the first station having a priority equal to a priority of the one or more existing data link would cause a loss of quality of one or more existing data link (see step 314, which determines that the requested bandwidth exceeds the available bandwidth; see "Avail(I), represents available bandwidth for a specific priority I, and is determined based on total bandwidth of the link minus the total bandwidth of all provisional and actual connections of higher or equal priority" recited in column 4, lines 45-50); the second station sending a message to the first station instructing the first station to at least temporarily suspend the second new data link for a second period of time (see reject request 313 in Fig. 3).

Desai does not disclose the following features: regarding claim 9, delaying the establishment of the new data link for a first period of time; regarding claim 21, wherein the second connection is suspended for a second period of time; regarding claim 23, wherein the determining that a second data link established by a first station having a priority equal to a priority of the one or more existing data link would cause a loss of quality of the one or more existing links comprises detecting a buffer overflow condition.

Cloutier discloses a method of queue length based burst management in wireless communication system including the following features.

Regarding claim 9, the method further comprises delaying the establishment of the new data link for a first period of time (see "Should sufficient resources be unavailable to accommodate the user, the base station must delay establishing a connection with the user and the user must wait until sufficient resources become available" recited in column 2, lines 58-65; wherein the first period of time is the time the user waits for sufficient resources becoming available).

Regarding claim 21, wherein the second connection is suspended (see "Should sufficient resources be unavailable to accommodate the user, the base station must delay establishing a connection with the user and the user must wait until sufficient resources become available" recited in column 2, lines 58-65; wherein the second period of time is the time the user waits for sufficient resources becoming available).

Regarding claim 23, wherein the determining that a second data link established by a first station having a priority equal to a priority of the one or more existing data link would cause a loss of quality of the one or more existing links comprises detecting a buffer overflow condition (see "the quantity of data would exceed the buffer size (overflow) and data would be lost" recited in column 6, lines 24-26).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Desai using features, as taught by Cloutier such that the user rejected of the connection waits for resources to become available in order to make the connection without overloading the capacity of the system or degrading the quality of the desired connection.

14. Claims 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desai and Cloutier as applied to claims 9-10 above, and further in view of Sastry (US 2003/0058871).

Desai and Cloutier disclose the claimed limitations as shown above.

Desai and Cloutier do not disclose the following features: regarding claim 11, wherein a maximum threshold level of capacity currently allocated to data links having a priority less than the first priority level is defined at the first station, and applied in determining free channel capacity, prevention the station from characterizing all of the capacity currently allocated to data links having a priority level less than the first priority level; regarding claim 19, wherein the threshold level is a percentage of the capacity currently allocated to data links having a priority level less than the first priority level.

Sastry discloses a per hop behavior for differentiated services including the following features.

Regarding claim 11, wherein a maximum threshold level of capacity currently allocated to data links having a priority less than the first priority level is defined at the first station, and applied in determining free channel capacity, prevention the station from characterizing all of the capacity currently allocated to data links having a priority level less than the first priority level (see "Classes with higher rate priorities receive a higher rate priority percentage of the available bandwidth than classes with lower rate priorities. These allocated rate priority percentages assure each class a minimum percentage of the actual available bandwidth" recited in paragraph [0043]).

Regarding claim 19, wherein the threshold level is a percentage of the capacity currently allocated to data links having a priority level less than the first priority level (see "Classes with higher rate priorities receive a higher rate priority percentage of the available bandwidth than classes with lower rate priorities. These allocated rate priority percentages assure each class a minimum percentage of the actual available bandwidth" recited in paragraph [0043]).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Desai and Cloutier using features, as taught by Sastry, in order to "assure each class a minimum percentage of the actual available bandwidth if the actual available bandwidth degrades from the nominal bandwidth" (see Sastry, paragraph [0043]).

15. Claims 12, 17-18 and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Desai and Cloutier as applied to claims 9 and 21 above, and further in view of ZHAO (US 2008/0056226).

Desai and Cloutier disclose the claimed limitations as shown above.

Desai and Cloutier do not disclose the following features: regarding claim 12, the first station establishing the new data link after the first period of time, the first station receiving a message from the second station to halt the new data link, and at least temporarily suspending the new data link for a second period of time after receiving the message; regarding claim 17, after the first period of time, the first station determining again that the free channel capacity at the first priority level is less than the requested

first channel capacity; and delaying the establishment of the new data link for a second period of time, the second period of time equal to the first period of time increased by a discrete value; regarding claim 18, wherein the determining of free channel capacity and delaying of the establishment the new data link is repeated until either the establishment of a data link is permitted or the attempt to establish the new link is finally halted by a termination condition; regarding claim 22, after the second period of time, the second station determining that a third new link established by the first station having a priority equal to a priority of the one or more existing data links would cause a loss of quality of the one or more existing data links; and sending a second message to the first station instructing the first station to at least temporarily suspend the third data link for a third period of time equal to the second period of time increased by a discrete value.

ZHAO discloses a method for maintaining a wireless data connection including the following features.

Regarding claim 12, the method further comprises the first station establishing the new data link after the first period of time (see Fig. 3, in which after the back off timer expires at step 130, the connection is requested again, at step 118 and the connection may be established after step 122), the first station receiving a message from the second station to halt the new data link (see Fig. 4, in which a release order may be sent in step 166), and at least temporarily suspending the new data link for a second period of time after receiving the message (see Fig. 4, in which the data link may be suspended between steps 166 and 118).

Regarding claim 17, after the first period of time, the first station determining again that the free channel capacity at the first priority level is less than the requested first channel capacity (see Fig. 3, step 122, in which the connection may be delayed for a second time to the NO branch); and delaying the establishment of the new data link for a second period of time (setting the back off timer again in step 128 of Fig. 3), the second period of time equal to the first period of time increased by a discrete value (see "back off timer is set to ever-increasing values" recited in the abstract).

Regarding claim 18, wherein the determining of free channel capacity and delaying of the establishment the new data link is repeated until either the establishment of a data link is permitted or the attempt to establish the new link is finally halted by a termination condition (see Fig. 4, in which the connection is repeated in steps 118, 122, 128 and 130 until the connection is established in step 160).

Regarding claim 22, after the second period of time, the second station determining that a third new link (see Fig. 3, in which an unlimited numbers of new links may be established as the connections are lost and then re-established in steps 124-126) established by the first station having a priority equal to a priority of the one or more existing data links would cause a loss of quality of the one or more existing data links (see Desai Fig. 3, as the requested bandwidth  $C_i$  exceeds the available capacity  $Avail(i)$ ); and sending a second message to the first station instructing the first station to at least temporarily suspend the third data (see step 166 in Fig. 4, in which a message is sent to release the connection) link for a third period of time equal to the second period of time increased by a discrete value (see Fig. 4, after step 166, after the

connection is lost and the new connection is rejected in step 122, the connection is suspended at least for a back off time period as shown in step 130; see "back off timer is set to ever-increasing values" recited in the abstract; such that the time period is equal to the previous back off period increased by a discrete value).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Desai and Cloutier, in order to maintain an "always-on data connection" (see abstract of ZHAO).

16. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desai, Cloutier and ZHAO as applied to claim 12 above, and further in view of Bernet (US 5,764,645).

Desai, Cloutier and ZHAO disclose the claimed limitations as shown above.

ZHAO also discloses the following features.

Regarding claim 14, after the second period of time, and after establishing a second new data link, receiving a second message from the second station to halt the second new data link (see Fig. 4, as after looping back from step 122 to step 160, another release order 166 may be sent), delaying the establishment of the second new data link for a third period of time (see the backoff timer 128 in Fig. 4), the third period of time equal to the second period of time increased by a discrete value (see "back off timer is set to ever-increasing values" recited in the abstract).

Regarding claim 15, wherein the establishment of the second new data link is repeated until either a transmission via the second new data link completes or the



second new data link attempts are finally halted by a termination condition (see Fig. 4, in which the connection is repeated in steps 118, 122, 128 and 130 until the connection is established in step 160).

Regarding claim 16, wherein the duration of the second period of time is set by a portion of the message received from the second station (see Fig. 4, as soon as the release order is received in step 166, the second period of time starts by releasing the connection, and steps 168, 126 and 118 are immediately set to start).

Desai, Cloutier and ZHAO do not disclose the following features: regarding claim 13, after the second period of time, the first station establishing a second new data link without regard for the current utilization of the medium.

Bernet discloses an IP/ATM network adaptation scheme including the following features.

Regarding claim 13, after the second period of time, the first station establishes a second new data link without regard for the current utilization of the medium (see "...connections can be set up at any time regardless of available bandwidth" recited in column 1, line 65-66).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Desai, Cloutier and ZHAO using features, as taught by Bernet, in order to provide the user with a quick connection.

17. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Desai, Cloutier and Zhao as applied to claim 12 above, and further in view of Sayers (US 2006/0071853).

Desai, Cloutier and ZHAO disclose the claimed limitations as shown above.

Desai, Cloutier and ZHAO do not disclose the following features: regarding claim 20, wherein the message received from the second station is tagged as having a highest priority.

Sayers discloses a method for determining direction of transmission including the following features.

Regarding claim 20, wherein the message received from the second station (see rejection of claim 12, wherein the message is a control message for releasing the connection as shown by ZHAO) is tagged as having a highest priority (see "control packets are short and have the highest priority" recited in paragraph [0080]; and that a control packet could be "a "disconnect" message" to the network" as shown in paragraph [0081]).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Desai, Cloutier and ZHAO using features, as taught by Sayers, in order to ensure that the system could be promptly controlled.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUTAI KAO whose telephone number is (571)272-9719. The examiner can normally be reached on Monday ~Friday 7:30 AM ~5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571)272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ju-Tai Kao

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